

Name: \_\_\_\_\_

**at1124exam: Radicals and Squares (v912)**

**Question 1**

Simplify the radical expressions.

$$\sqrt{99}$$

$$\sqrt{50}$$

$$\sqrt{63}$$

**Question 2**

Find all solutions to the equation below:

$$2 \left( (x - 10)^2 + 10 \right) = 70$$

**Question 3**

By completing the square, find both solutions to the given equation. *You must show work for full credit!*

$$x^2 - 8x = 65$$

**Question 4**

Any quadratic function, with vertex at  $(h, k)$ , can be expressed in vertex form:

$$y = a(x - h)^2 + k$$

A quadratic function is shown below in standard form.

$$y = 2x^2 - 24x + 69$$

Express the function in **vertex form** and identify the **location** of the vertex.